

10572175

File 5:Biosis Previews(R) 1926-2009/May W1
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Set	Items	Description
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? s clytia and (biolum? or photo?)		
	181	CLYTIA
	7668	BIOLUM?
	463811	PHOTO?
S1	11	CLYTIA AND (BIOLUM? OR PHOTO?)
? t s1/7/1-11		

1/7/1

DIALOG(R)File 5:Biosis Previews(R)
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0020915757 BIOSIS NO.: 200900256091
Affine magnetic sorbents supported on coal ash microspheres for recombinant protein isolation
AUTHOR: Frank L A (Reprint); Borisova V V; Vereshchagina T A; Fomenko E V; Anshits A G; Gitelson I I
AUTHOR ADDRESS: Russian Acad Sci, Inst Biophys, Siberian Branch, Krasnoyarsk 660036, Russia**Russia
AUTHOR E-MAIL ADDRESS: lfrank@yandex.ru
JOURNAL: Applied Biochemistry and Microbiology 45 (2): p215-220 MAR 2009 2009
ITEM IDENTIFIER: doi:10.1134/S0003683809020173
ISSN: 0003-6838
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The results of the development and utilization of an affine magnetic sorbent with Ni²⁺ ions immobilized on coal ash microspheres are reported. The applicability of the material in the isolation of Histag proteins is demonstrated by examples of the recombinant green fluorescent protein from *Clytia* gregaria and the Ca²⁺ regulated photoprotein obelin from *Obelia longissima*. The specific sorption capacity of the sorbent was 2-7 mg/cm³ for medium-size proteins (20-30 kDa). The particles are suitable for chromatography with the presence of chaotropic agents and EDTA. They are easy to manipulate as isolation of a target protein takes 30-35 min. On the one hand, the elevated affinity of the sorbent to proteins rich in native histidines may result in a high degree of irreversible sorption; on the other hand, it allows isolation of such proteins without the introduction of artificial polyhistidine fragments.

1/7/2

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0020466319 BIOSIS NO.: 200800513258
Cloning, expression, purification and characterization of an isotype of clytin, a calcium-binding photoprotein from the luminous

hydromedusa *Clytia* gregarium
AUTHOR: Inouye Satoshi (Reprint)
AUTHOR ADDRESS: Chisso Corp, Yokohama Res Ctr, 5-1 Okawa, Yokohama,
Kanagawa 2368605, Japan**Japan
AUTHOR E-MAIL ADDRESS: sinouye@chisso.co.jp
JOURNAL: Journal of Biochemistry (Tokyo) 143 (5): p711-717 MAY 2008 2008
ITEM IDENTIFIER: doi:10.1093/jb/mvn024
ISSN: 0021-924X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The cDNA for an isotype of clytin, a calcium-binding
photoprotein from the luminous jellyfish *Clytia* gregarium,
was identified and named clytin-II. The histidine-tagged apoprotein of
clytin-II expressed into the periplasmic space of *Escherichia coli* cells
was isolated by nickel chelate affinity chromatography. Recombinant
clytin-II regenerated from apoprotein by incubation with coelenterazine
was purified. The yield of purified clytin-II was 13mg from 21 of
cultured cells with purity > 95%. The luminescence properties of
clytin-II were characterized by comparison with clytin-I and aequorin,
and semi-synthetic clytin-II was also prepared. The initial luminescence
intensity of clytin-II triggered by Ca²⁺ was 4.5 times higher than that
of clytin-I and aequorin, but the luminescence capacity was close to
clytin-I and aequorin. Thus, clytin-II is a useful protein, showing high
sensitivity in the signal-to-noise ratio of luminescence intensity.

1/7/3

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0019730016 BIOSIS NO.: 200700389757
Expression, purification and characterization of a photoprotein,
clytin, from *Clytia* gregarium
AUTHOR: Inouye Satoshi (Reprint); Sahara Yuiko
AUTHOR ADDRESS: Mitsubishi Chem Corp, Yokohama Res Ctr, Kanazawa Ku, 5-1
Okawa, Yokohama, Kanagawa 2368605, Japan**Japan
AUTHOR E-MAIL ADDRESS: sinouye@chisso.co.jp
JOURNAL: Protein Expression and Purification 53 (2): p384-389 JUN 2007
2007
ITEM IDENTIFIER: doi:10.1016/j.pep.2006.12.014
ISSN: 1046-5928
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A novel histidine-tagged secretion vector in *Escherichia coli* was
constructed and large amounts of highly pure clytin, a calcium-binding
photoprotein, was prepared. The histidine-tagged apoclytin
expressed into the periplasmic space in *E. coli* was purified by nickel
chelate affinity chromatography. Recombinant clytin was regenerated from
apoclytin by incubation with coelenterazine in the presence of
dithiothreitol and then purified by anion-exchange chromatography and
hydrophobic chromatography. The yield of recombinant clytin was 20 mg
from 2 L of cultured cells with purity greater than 95%. Luminescence
properties of recombinant clytin were identical to that of native clytin

(phialidin). The Ca²⁺ sensitivity of recombinant clytin is lower than that of aequorin and clytin is suited for measuring higher concentration of Ca²⁺. Semi-synthetic clytins were also prepared with coelenterazine analogues, and the initial intensity, luminescence capacity and half decay time were characterized. (C) 2006 Elsevier Inc. All rights reserved.

1/7/4

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0019455449 BIOSIS NO.: 200700115190

Recombinant GFP of the jellyfish *Clytia* gregarium:

bioluminescent resonance energy transfer (BRET) between

photoprotein clytin and GFP

AUTHOR: Markova S V (Reprint); Frank L A; Golz S; Burakova L P; Stepanyuk G A; Lee J; Vysotski E S

AUTHOR ADDRESS: RAS, SB, Inst Biophys, Photobiol Lab, Krasnoyarsk 660036, Russia**Russia

JOURNAL: Luminescence (Chichester) 21 (5): p283 SEP-OCT 2006 2006

CONFERENCE/MEETING: 14th International Symposium on Bioluminescence and Chemiluminescence San Diego, CA, USA October 15 -19, 2006; 20061015

SPONSOR: Int Soc Bioluminescence & Chemiluminescence

ISSN: 1522-7235

DOCUMENT TYPE: Meeting; Meeting Abstract

RECORD TYPE: Citation

LANGUAGE: English

1/7/5

DIALOG(R)File 5:Biosis Previews(R)

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18793322 BIOSIS NO.: 200600138717

Relationships between benthic diatoms and hydrozoans (Cnidaria)

AUTHOR: Di Camillo C; Puce S; Romagnoli T; Tazioli S; Totti C; Bavestrello G (Reprint)

AUTHOR ADDRESS: Univ Politecn Marche, Dipartimento Sci Mare, Via Brecce Bianche, I-60131 Ancona, Italy**Italy

AUTHOR E-MAIL ADDRESS: g.bavestrello@univpm.it

JOURNAL: Journal of the Marine Biological Association of the United Kingdom 85 (6): p1373-1380 DEC 2005 2005

ISSN: 0025-3154

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Some examples of relationships between hydroids and epibionthic diatoms from the Mediterranean Sea are described, verifying the kind of interaction existing between the two partners. The athecate Eudendrium racemosum hosts an extremely rich diatom assemblage, mainly comprising Licmophora spp., Amphora spp. and Cocconeis spp. On the contrary, only adnate growth forms (Cocconeis pseudonotata, C. dirupta) were observed in diatom communities growing on the external side of thecate species Campanularia hincksii, *Clytia* linearis and Synthecium evansi. Some diatom species (Cocconeis notata, Cylindrotheca sp. and Navicula sp.) are

able to survive in the intrathecal microenvironment. They live in the narrow space between hydrotheca and polyp, receiving protection and probably using the nutrients produced by hydroid metabolism. Sunlight can penetrate through transparent thecae and reach the diatom layer, making **photosynthesis** possible.

1/7/6

DIALOG(R)File 5:Biosis Previews(R)

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16621447 BIOSIS NO.: 200200214958

Obelin from the **bioluminescent** marine hydroid *Obelia geniculata*:

Cloning, expression, and comparison of some properties with those of other **Ca²⁺-regulated photoproteins**

AUTHOR: Markova Svetlana V; Vysotski Eugene S; Blinks John R; Burakova Ludmila P; Wang B-C; Lee John (Reprint)

AUTHOR ADDRESS: Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA, 30602, USA**USA

JOURNAL: Biochemistry 41 (7): p2227-2236 February 19, 2002 2002

MEDIUM: print

ISSN: 0006-2960

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A cDNA encoding the **Ca²⁺-regulated photoprotein** of the **bioluminescent** marine hydroid *Obelia geniculata* was cloned and sequenced. The cDNA is a 774 bp fragment containing two overlapping open reading frames, one of which contained 585 bp encoding a 195 amino acid polypeptide which obviously has the primary structure of the apoprotein of a calcium-regulated **photoprotein**. Many of the residues are identical to those in other **Ca²⁺-regulated photoproteins**: 86% compared with that from *Obelia longissima*, 76% with that from **Clytia** (*Phialidium*), 64% with that from *Aequorea*, and 64% with that from *Mitrocoma* (*Halistaura*). The obelin from *O. geniculata* was overexpressed in *Escherichia coli*, refolded from inclusion bodies, and purified. The yield of highly purified recombinant protein was 55-80 mg/L of LB medium. *O. geniculata* obelin has absorption maxima at 280 and 460 nm and a shoulder at approximately 310 nm. The calcium-discharged protein loses visible absorption but exhibits a new absorption maximum at 343 nm. The **bioluminescence** of the obelin from *O. geniculata* is blue ($\lambda_{\text{max}}=495$ nm). In contrast, the fluorescence of the calcium-discharged protein is yellow-green ($\lambda_{\text{max}}=520$ nm; excitation at 340 nm). This is in sharp contrast to aequorin in which the **bioluminescence** and fluorescence emission spectra of the calcium-discharged protein are almost identical ($\lambda_{\text{max}}=465$ nm). The **Ca²⁺ concentration-effect** curve for *O. geniculata* obelin is similar to those of many other **photoproteins**: at (**Ca²⁺**) below approximately 10⁻⁸ M, calcium-independent luminescence is observed, and at (**Ca²⁺**) approximately 10⁻³ M, the luminescence reaches a maximum. Between these extremes, the curve spans a vertical range of almost 8 log units with a maximum slope on a log-log plot of about 2.5. In the absence of **Mg²⁺** the rate constant for the rise of **bioluminescence** determined by the stopped-flow technique is about 450 s⁻¹. The effects of **Mg²⁺** on the kinetics of **bioluminescence** are complicated, but at all concentrations studied they are relatively small compared to the

corresponding effects on aequorin luminescence. At least with respect to speed and sensitivity to Mg^{2+} , the obelins from both *O. longissima* and *O. geniculata* would appear to be more suitable than aequorin for use as intracellular Ca^{2+} indicators.

1/7/7

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16087107 BIOSIS NO.: 200100258946

%%Photosynthetic%% planulae and planktonic hydroids: Contrasting strategies of propagule survival

AUTHOR: Pagliara Patrizia (Reprint); Bouillon Jean; Boero Ferdinando (Reprint)

AUTHOR ADDRESS: Dipartimento di Biologia, Stazione di Biologia Marina, Museo dell'Ambiente, Universita di Lecce, 73100, Lecce, Italy**Italy

JOURNAL: Scientia Marina 64 (Supplement 1): p173-178 December, 2000 2000

MEDIUM: print

ISSN: 0214-8358

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Settlement delays can be important to prevent propagule waste when proper settling substrates are not immediately available. Under laboratory conditions, the planulae of %%Clytia%% viridicans underwent two alternative developmental patterns. Some settled on the bottom, forming a hydranth-gonotheca complex that produced up to four medusae and later either degenerated or gave rise to a hydroid colony. Other planulae settled right below the air-water interface, forming floating colonies that eventually fell to the bottom and settled. *Halecium nanum* released planulae with a rich population of symbiotic zooxanthellae that survived into a rearing jar for three months. After a long period of apparent quiescence (possibly fuelled by %%photosynthetic%% activities of zooxanthellae) the planulae produced new colonies. Both %%photosynthetic%% planulae and settlement at the interface air-water allow a delay in the passage from a planktonic to a fully functional benthic life.

1/7/8

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13047994 BIOSIS NO.: 199598515827

Using GFP to see the light

AUTHOR: Prasher Douglas C

AUTHOR ADDRESS: USDA, APHIS, Build. 1398, Otis ANGB, MA 02542, USA**USA

JOURNAL: Trends in Genetics 11 (8): p320-323 1995 1995

ISSN: 0168-9525

DOCUMENT TYPE: Article

RECORD TYPE: Citation

LANGUAGE: English

1/7/9

DIALOG(R)File 5:Biosis Previews(R)
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11784202 BIOSIS NO.: 199395086468

Cloning and sequence analysis of cDNA for the calcium-activated
%%photoprotein%%, clytin

AUTHOR: Inouye Satoshi; Tsuji Frederick I

AUTHOR ADDRESS: Osaka Bioscience Inst., 6-2-4 Furuedai, Suita, Osaka 565,
Japan**Japan

JOURNAL: FEBS (Federation of European Biochemical Societies) Letters 315 (3): p343-346 1993

ISSN: 0014-5793

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Clytin is a member of the aequorin family of %%photoproteins%%. It is made up of 189 amino acid residues, contains 3 Ca-2+-binding site, and shows 62% homology in amino acid residues to those in aequorin. The cysteine, tryptophan, and histidine residues, and the C-terminal proline, that are conserved in aequorin and clytin may be involved in the Ca-2+-activated %%bioluminescence%% of the two proteins. Clytin may also prove useful in the determination of Ca-2+.

1/7/10

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04448863 BIOSIS NO.: 197458024713

OBSERVATIONS ON SOME EPIBIONTS OF GULF WEED SARGASSUM-NATANS

AUTHOR: RYLAND J S

JOURNAL: Journal of Experimental Marine Biology and Ecology 14 (1): p17-25
1974

ISSN: 0022-0981

DOCUMENT TYPE: Article

RECORD TYPE: Citation

LANGUAGE: Unspecified

1/7/11

DIALOG(R)File 5:Biosis Previews(R)
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04368548 BIOSIS NO.: 197457014403

LUMISOMES THE CELLULAR SITE OF BIO LUMINESCENCE IN COELENTERATES

AUTHOR: ANDERSON J M; CORMIER M J

JOURNAL: Journal of Biological Chemistry 248 (8): p2937-2943 1973

ISSN: 0021-9258

DOCUMENT TYPE: Article

RECORD TYPE: Citation

LANGUAGE: Unspecified

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E3	18	*AU=GOLZ STEFAN
E4	1	AU=GOLZ T
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S2 18 AU='GOLZ STEFAN'

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E6	31	AU=VYSOTSKI EUGENE S
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E10	1	AU=VYSOTSKII A M
E11	1	AU=VYSOTSKII A V
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 28 AU=VYSOTSKI E S
 1 AU=VYSOTSKI EUGENE
 31 AU=VYSOTSKI EUGENE S
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S4	11	E3-E9
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S6	62	E3-E6

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 S8 82 S7 OR S2

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 80 S9
 181 CLYTIA
 S10 2 S9 AND CLYTIA
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0019455449 BIOSIS NO.: 200700115190
Recombinant GFP of the jellyfish *Clytia* gregarium: bioluminescent
resonance energy transfer (BRET) between photoprotein clytin and GFP
AUTHOR: Markova S V (Reprint); Frank L A; Golz S; Burakova L P;
Stepanyuk G A; Lee J; Vysotski E S
AUTHOR ADDRESS: RAS, SB, Inst Biophys, Photobiol Lab, Krasnoyarsk 660036,
Russia**Russia
JOURNAL: Luminescence (Chichester) 21 (5): p283 SEP-OCT 2006 2006
CONFERENCE/MEETING: 14th International Symposium on Bioluminescence and
Chemiluminescence San Diego, CA, USA October 15 -19, 2006; 20061015
SPONSOR: Int Soc Bioluminescence & Chemiluminescence
ISSN: 1522-7235
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English

10/7/2
DIALOG(R)File 5:Biosis Previews(R)
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16621447 BIOSIS NO.: 200200214958
Obelin from the bioluminescent marine hydroid *Obelia geniculata*: Cloning,
expression, and comparison of some properties with those of other
Ca²⁺-regulated photoproteins
AUTHOR: Markova Svetlana V; Vysotski Eugene S; Blinks John R;
Burakova Ludmila P; Wang B-C; Lee John (Reprint)
AUTHOR ADDRESS: Department of Biochemistry and Molecular Biology,
University of Georgia, Athens, GA, 30602, USA**USA
JOURNAL: Biochemistry 41 (7): p2227-2236 February 19, 2002 2002
MEDIUM: print
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A cDNA encoding the Ca²⁺-regulated photoprotein of the
bioluminescent marine hydroid *Obelia geniculata* was cloned and sequenced.
The cDNA is a 774 bp fragment containing two overlapping open reading
frames, one of which contained 585 bp encoding a 195 amino acid
polypeptide which obviously has the primary structure of the apoprotein
of a calcium-regulated photoprotein. Many of the residues are identical
to those in other Ca²⁺-regulated photoproteins: 86% compared with that
from *Obelia longissima*, 76% with that from *Clytia* (*Phialidium*), 64%
with that from *Aequorea*, and 64% with that from *Mitrocoma* (*Halistaura*).
The obelin from *O. geniculata* was overexpressed in *Escherichia coli*,
refolded from inclusion bodies, and purified. The yield of highly
purified recombinant protein was 55-80 mg/L of LB medium. *O. geniculata*
obelin has absorption maxima at 280 and 460 nm and a shoulder at
approximately 310 nm. The calcium-discharged protein loses visible
absorption but exhibits a new absorption maximum at 343 nm. The
bioluminescence of the obelin from *O. geniculata* is blue ($\lambda_{\text{max}}=495$
nm). In contrast, the fluorescence of the calcium-discharged protein is
yellow-green ($\lambda_{\text{max}}=520$ nm; excitation at 340 nm). This is in sharp
contrast to aequorin in which the bioluminescence and fluorescence
emission spectra of the calcium-discharged protein are almost identical

($\lambda_{\text{max}}=465$ nm). The Ca^{2+} concentration-effect curve for *O. geniculata* obelin is similar to those of many other photoproteins: at (Ca^{2+}) below approximately 10^{-8} M, calcium-independent luminescence is observed, and at (Ca^{2+}) approximately 10^{-3} M, the luminescence reaches a maximum. Between these extremes, the curve spans a vertical range of almost 8 log units with a maximum slope on a log-log plot of about 2.5. In the absence of Mg^{2+} the rate constant for the rise of bioluminescence determined by the stopped-flow technique is about 450 s^{-1} . The effects of Mg^{2+} on the kinetics of bioluminescence are complicated, but at all concentrations studied they are relatively small compared to the corresponding effects on aequorin luminescence. At least with respect to speed and sensitivity to Mg^{2+} , the obelins from both *O. longissima* and *O. geniculata* would appear to be more suitable than aequorin for use as intracellular Ca^{2+} indicators.

? ds

Set	Items	Description
S1	11	CLYTIA AND (BIOLUM? OR PHOTO?)
S2	18	AU='GOLZ STEFAN'
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S4	11	E3-E9
S5	13	E5-E6
S6	62	E3-E6
S7	68	S S2 OR S3 OR S4 OR S5 OR S6
S8	82	S7 OR S2
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    $1.86 TELNET
    $51.00 Estimated cost this search
    $51.00 Estimated total session cost    3.205 DialUnits
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